

Patent Claims

1. Process for laser welding two coated plates, which are positioned upon each other as gap-free as possible,

wherein during a first process step first the plate facing the laser beam is warmed with the laser beam in such a manner

- that the coating of both plates on their sides facing each other is evaporated,

- that no plate is completely melted through,

wherein subsequently during a second process step the two plates are welded along the de-coated area, thereby characterized, that both process steps are carried out by the same laser beam with substantially the same output and focusing, however, the second process step is carried out with reduced speed of advance.

2. Process according to Claim 1, thereby characterized, that the laser beam is guided on the surface via a scanner device.

3. Process according to one of the preceding claims, thereby characterized, that the laser beam is focused in such a manner that its focus is between 0 and 50 mm, preferably approximately 20 mm, from the surface of the laser beam facing plate.

4. Process according to one of the preceding claims, thereby characterized, that the laser beam is guided during the second process step in such a manner that a transverse movement component is superimposed upon the main direction of advance (so-called beam spinning).

5. Process according to one of the preceding claims, thereby characterized, that the first and second process steps occur alternately in the form of a step seam.

6. Process according to one of the preceding claims, wherein during the first process step no plate melts.